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(56) Documents cited
GB 2203532 A EP 0131423 A2

(58) Field of search
UK CL (Edition K) F4W
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(54) **Fuel effect gas fires**

(57) A fuel effect gas fire comprises a fuel effect structure on a tray (10) having ridges (18) defining flame passageways from a gas burner (not shown) situated below a slot (16) in the tray. A casing for the fire may comprise on its outer face a layer of insulating material and a layer of stainless steel.

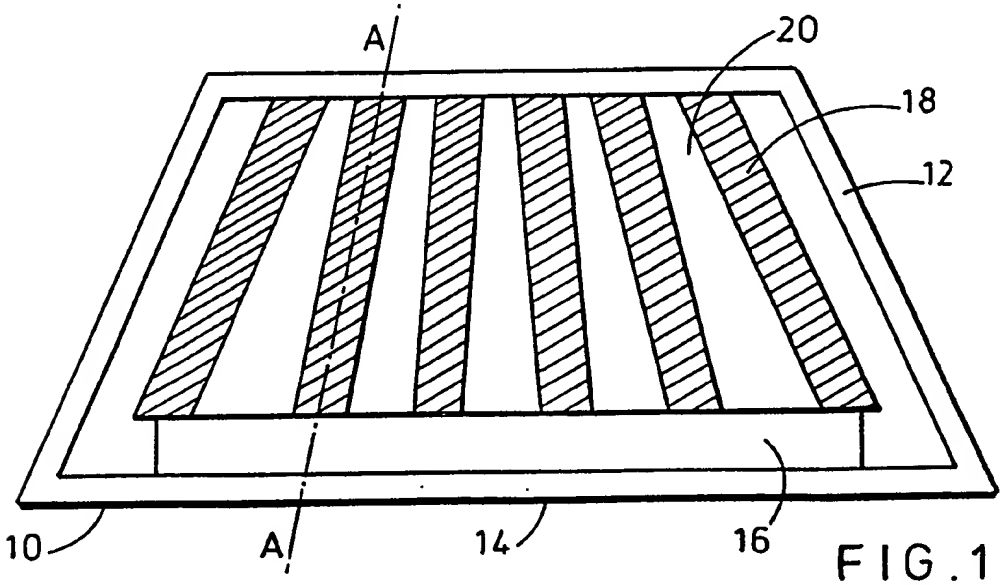

FIG. 1

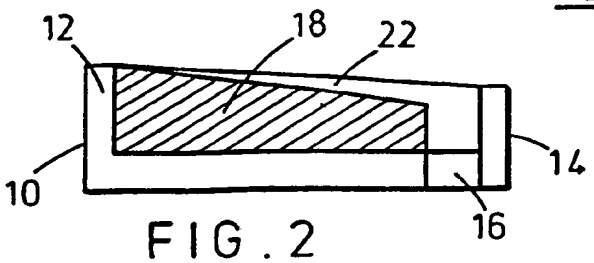

FIG. 2

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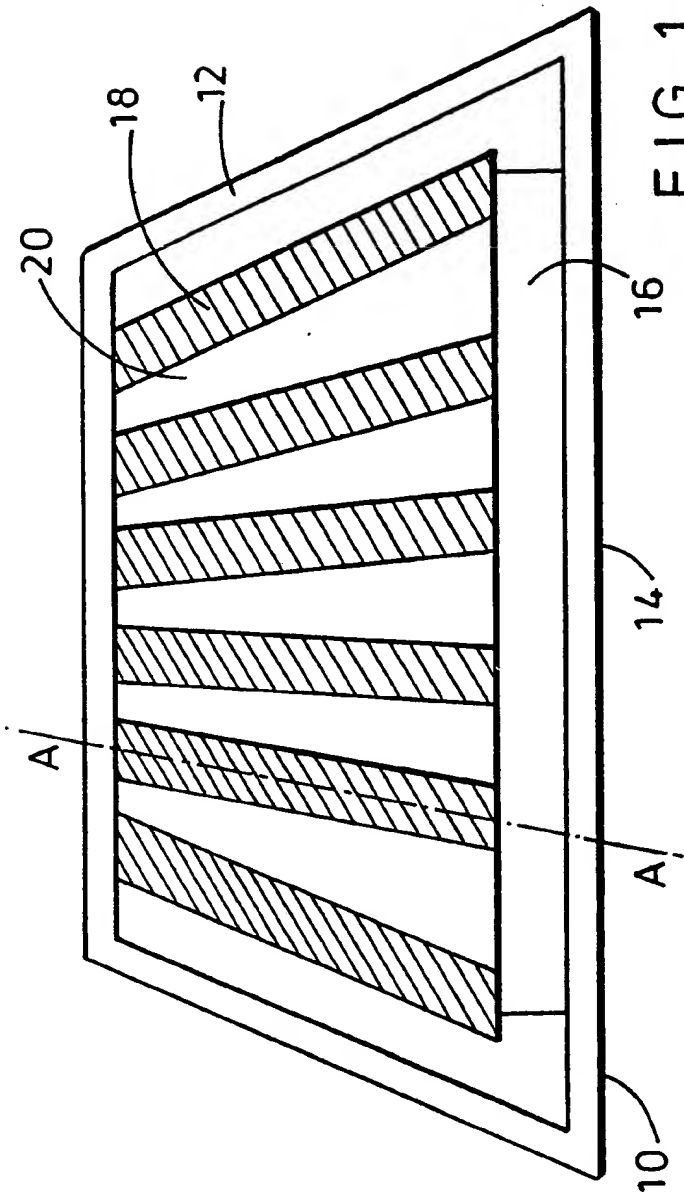

FIG. 1

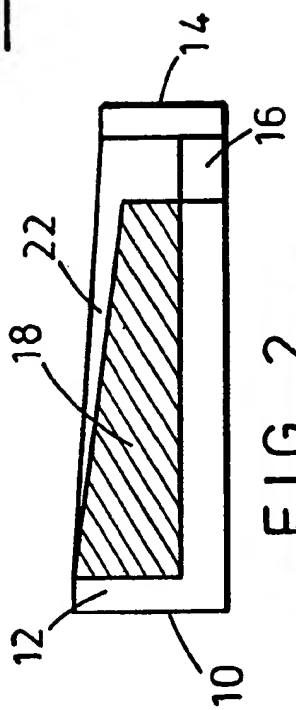

FIG. 2

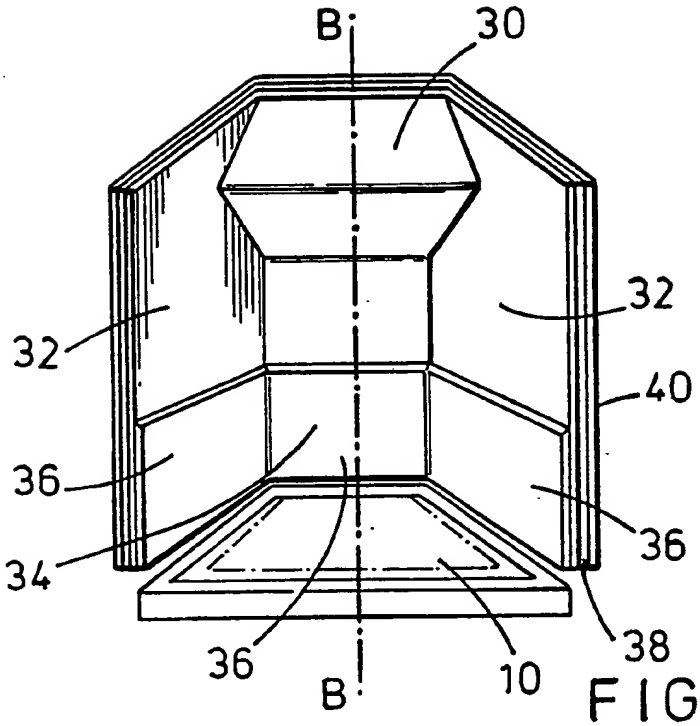

FIG. 3

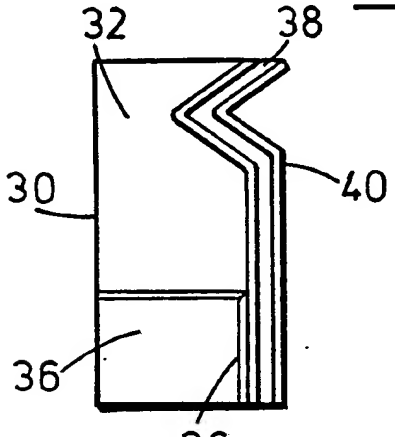

FIG. 4

Title: Improvements in and relating to decorative fuel effect gas fires

DESCRIPTION

This invention relates to decorative fuel effect gas fires.

British Patent Application No. 2207235A describes a coal effect gas fire having a coal effect structure supported on an apertured member beneath which a combination chamber is defined. The apertured member sits on a tray with transverse ribs and the tray has front and rear slots for gas burners. It has been found that the provision of transverse ribs actually spread a flame from the front burner and the rear slot actually pulls in cold air to cool the fire when the rear burner is not in use. The rear burner becomes essential to give a good spread of flame over the entire coal effect structure.

An object of this invention is to provide a decorative fuel effect gas fire that can operate with a single gas burner and have good flame spread over a coal effect structure.

According to this invention it is proposed that a fuel effect structure be provided on a tray having ridges or the like defining flame passageways from a gas

burner.

The tray is preferably made of a ceramic material and ideally a material that will glow when heated. The ridges or the like may be of any suitable shape or size and in any suitable arrangement. For example, the ridges may be in a parallel arrangement. Alternatively the ridges may be in a radial arrangement. Another alternative may be an arrangement having some parallel and some radial ridges. An irregular arrangement of ridges may also be suitable provided that generally front to back passageways are defined.

The ridges themselves may be of any suitable shape. The ridges may be generally of square or rectangular section or may taper upwards say to form a triangular section with a sharp or smoothed apex. The ridges may be of even height along their length or may have an inclined upper surface or edge. Any incline of the ridges is preferably upwards from front to rear of the tray. It is also possible for the ridges to be tapered in vertical section front to back either narrowing to the front or to the back of the tray.

The gas burner is preferably situated below a front transverse slot of the tray so that flame is created in the region of the slot and drawn along the passageways to spread flame over at least a substantial area of the tray. The burner is preferably a multi-

ported aerated burner and is preferably suitable for liquified petroleum gas or for natural gas.

Alternatively, the gas burner could be of a circular or part circular type situated generally centrally of the tray with ridges radiating therefrom.

Another problem with coal effect gas fires is heat loss through the fire casing. Various heat exchange proposals have been made using combination products to heat air from a room which is returned to the room. However, the present invention in another aspect seeks to reduce heat losses by suitable provision of means for radiating heat into a room.

According to this aspect of the invention it is proposed that a fuel effect gas fire casing, say of stainless steel, have on at least part of its outer surface or back a layer of insulation material. In addition, insulation material may be provided on at least a part of the inner surface of the casing.

The insulation material on the outer surface or back of the casing is preferably ceramic. The insulation material may be in the form of a blanket, a board or boards or spray on material. The insulation material may be enclosed by a metal outer casing to form a sandwich construction.

The insulation material on the inner surface of the casing is preferably also ceramic. The insulation

material on the inner surface of the casing is preferably on lower regions thereof say below mid height of the casing.

This invention will now be further described by way of example only, with reference to the accompanying drawings, in which:

Figure 1 is a plan view of a tray for a coal effect gas fire;

Figure 2 is a section on line AA of Figure 1;

Figure 3 is a front view of a coal effect gas fire casing; and

Figure 4 is a side view of the casing of Figure 3.

In general a coal effect gas fire comprises a gas burner, a coal effect structure, a support for the coal effect structure and a casing for the fire. Flames from the burner spread through the coal effect structure, typically of vermiculite which glows red when heated, to give the effect of coal burning. In this instance the support for the coal effect structure is a tray 10 of ceramic material, typically moulded from ceramic material (see Figures 1 and 2 of the accompanying drawings).

The tray 10 is general trapezoidal in plan view and have a surrounding rim 12. In use the longer side 14 will be to the front of a fire. Adjacent the side 14

is a slot 16 below which a multi-ported aerated gas burner will be situated. Extending from the slot to the rear of the tray are ridges or fingers 18 forming passageways 20 therebetween. These passageways provide paths for flames to spread from the burner over substantially the whole of the coal effect structure on the tray. As shown the ridges 18 are in a radial arrangement converging towards the rear of the tray. However, any other suitable arrangement of ridges may be considered including a parallel arrangement or a combination of parallel and radial ridges.

The ridges 18 are rectangular in cross section and have an upper surface 22 that is inclined upwards to the rear of the tray. Other cross sections for the ridges may be suitable and they need not have an inclined upper surface.

Turning now to Figure 3 and 4 of the accompanying drawings, casing 30 for a coal effect gas fire comprises an open fronted, three sided enclosure having sides 32 and a back 34. The tray 10 is shown situated in the bottom of the casing 30. On the inner face of the casing are ceramic fire bricks 36 to radiate heat into a room. On the outer face of the casing is a layer of insulation material 38, which may be a blanket or of board or sprayed on. Adhesive may be used to fix the insulation material to the casing or mechanical fixing

means, such as clips, may be used. Optionally or additional layer 40 of stainless steel may be fixed to the fire to form a sandwich construction with the insulation material as the filling.

CLAIMS

1. A decorative fuel effect gas fire comprising a fuel effect structure on a tray having ridges or the like defining flame passageways from a gas burner.

2. A decorative fuel effect gas fire as claimed in claim 1, wherein the tray is made of a ceramic material.

3. A decorative fuel effect gas fire as claimed in claim 1 or 2, wherein the ridges are in a parallel arrangement.

4. A decorative fuel effect gas fire as claimed in claim 1 or 2, wherein the ridges are in a radial arrangement.

5. A decorative fuel effect gas fire as claimed in claim 1 or 2, wherein some ridges are parallel and some are in a radial arrangement.

6. A decorative fuel effect gas fire as claimed in any one of claims 1 to 5, wherein the ridges are generally of square or rectangular section.

7. A decorative fuel effect gas fire as claimed in any one of claims 1 to 5, wherein the ridges taper upwards.

8. A decorative fuel effect gas fire as claimed in any one of claims 1 to 7, wherein the ridges are of even height along their length.

9. A decorative fuel effect gas fire as claimed in

any one of claims 1 to 7, wherein the ridges have an inclined upper surface or edge.

10. A decorative fuel effect gas fire as claimed in claim 9, wherein said inclination of the ridges is upwards from front to rear of the tray

11. A decorative fuel effect gas fire as claimed in any one of claims 1 to 10, wherein the ridges are tapered in vertical section front to back either narrowing to the front or to the back of the tray.

12. A decorative fuel effect gas fire as claimed in any one of claims 1 to 11, wherein the gas burner is situated below a front transverse slot of the tray.

13. A decorative fuel effect gas fire as claimed in any one of claims 1 to 12, wherein the burner is a multi-ported aerated burner.

14. A decorative fuel effect gas fire as claimed in any one of claims 1 to 13, comprising a casing having on at least part of its outer surface or back a layer of insulation material.

15. A decorative fuel effect gas fire as claimed in claim 14 further having insulation material on at least a part of the inner surface of the casing.

16. A decorative fuel effect gas fire as claimed in claim 14 or 15, wherein the insulation material on the outer surface or back of the casing is ceramic.

17. A decorative fuel effect gas fire as claimed in

claim 14 or 15, wherein the insulation material is in the form of a blanket, a board or boards or spray on material.

18. A decorative fuel effect gas fire as claimed in any one of claims 14 to 17, wherein the insulated material is enclosed by a metal outer casing to form a sandwich construction.

19. A decorative fuel effect gas fire as claimed in any one of claims 15 to 18, wherein the insulation material on the inner surface of the casing is also ceramic.

20. A decorative fuel effect gas fire as claimed in any one of claims 15 to 19, wherein the insulation material on the inner surface of the casing is on lower regions thereof.

21. A decorative fuel effect gas fire comprising a casing having on at least part of its outer surface or back a layer of insulation material.

22. A decorative fuel effect gas fire as claimed in claim 21, wherein insulation material is provided on at least a part of the inner surface of the casing.

23. A decorative fuel effect gas fire as claimed in claim 21 or 22, wherein the insulation material is ceramic.

24. A decorative fuel effect gas fire as claimed in claim 21, 22 or 23, wherein the insulation material is

in the form of a blanket, a board or boards or spray on material.

25. A decorative fuel effect gas fire as claimed in any one of claims 21 to 24, wherein the insulation material is enclosed by a metal outer casing to form a sandwich construction.

26. A decorative fuel effect gas fire as claimed in any one of claims 22 to 25, wherein the insulation material on the inner surface of the casing is on lower regions thereof.

27. A decorative fuel effect gas fire substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

Patents Act 1977
Examiner's report to the Comptroller under Section 17 (The Search Report)

Application number

9126283.2

Relevant Technical fields

(i) UK Cl (Edition K) F4W

(ii) Int Cl (Edition 5) F24C

Search Examiner

A N BENNETT

Databases (see over)

(i) UK Patent Office

(ii)

Date of Search

31 MARCH 1992

Documents considered relevant following a search in respect of claims

1

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
A	GB 2203532 A (GLOW-WORM) Whole document	1
A	EP 0131423 A2 (TENNANT) Whole document	1

Category	Identity of document and relevant passages	Relevant to claim(s)

Categories of documents

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